	Application No.	Applicant(s)
Notice of Allowability	09/733,808	CHIN ET AL.
	Examiner	Art Unit
	Quang N. Nguyen	2141

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to *the Amendment filed on 01/11/2006*.

2. ☒ The allowed claim(s) is/are *1,3-13 and 15-19*.

3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a) ☐ All   b) ☐ Some*   c) ☐ None   of the:

        1. ☐ Certified copies of the priority documents have been received.

        2. ☐ Certified copies of the priority documents have been received in Application No. _____ .

        3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the

            International Bureau (PCT Rule 17.2(a)).

    * Certified copies not received: _____ .

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application. **THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.

5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.

    (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached

        1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____ .

    (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of

        Paper No./Mail Date _____ .

    Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).

6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☐ Notice of References Cited (PTO-892)

2. ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)

3. ☐ Information Disclosure Statements (PTO-1449 or PTO/SB/08), Paper No./Mail Date _____

4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material

5. ☐ Notice of Informal Patent Application (PTO-152)

6. ☐ Interview Summary (PTO-413), Paper No./Mail Date _____ .

7. ☒ Examiner's Amendment/Comment

8. ☐ Examiner's Statement of Reasons for Allowance

9. ☐ Other _____ .

Examiner's Amendment

1.   An Examiner's amendment to the record appears below. Should the changes

and/or additions be unacceptable to applicant, an amendment maybe filed as provided

by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be

submitted no later than the payment of the issue fee.

2.   Authorization for this Examiner's Amendment was given in a telephone interview

with the Applicant's Representative, Ms. Lea A. Nicholson (Registration No. 48,346) on

February 07th, 2006.

3.   Please change **Claim 1** to:

(Currently amended) A method for <u>performing user</u> migrating a user from a

source server module providing a content stream to said user, said content stream

divided into a plurality of extents, said method comprising the steps of:

determining, for said <u>a</u> content stream being provided to said <u>a</u> user <u>from a</u>

<u>source server module, determining a transitional extent deadline associated with</u> a

transitional extent <u>that defines</u> defining an appropriate first extent to be provided to said

user via a destination server module<u>, said content stream being divided into a plurality</u>

<u>of extents, including said transitional extent, said appropriate first extent, and a plurality</u>

<u>of subsequent extents</u>;

determining if whether said destination server module is capable of providing said transitional extent to said user within a retrieving said transitional extent from an array of storage devices within the transitional extent deadline first time period; and

causing said destination server module to provide said transitional extent and said subsequent extents associated with said content stream to said user, each extent containing an amount of information retrieved from a single storage device of the an array of storage devices during one service period.

4.   Please change **Claim 3** to:

(Currently amended) The method of claim 1, wherein determining whether said destination server module is capable of providing said transitional extent to said user within said transitional extent deadline includes: said second step of determining comprises the steps of:

communicating at least said transitional extent including [[a]] said transitional extent deadline to said destination server; and

evaluating a message received from said destination server module, said message comprising one of a rejection, an acceptance and a modified acceptance of a migration of said user to said destination server module.

5.   Please change **Claim 4** to:

(Currently amended) The method of claim 3, wherein said message is ~~in~~ the ~~case~~

~~of a~~ rejection of said ~~the~~ migration of said user to said destination server module, and

further comprising selecting an alternate destination server module ~~is selected~~.

6.   Please change **Claim 5** to:

(Currently amended) The method of claim 3, wherein said message is ~~in~~ the ~~case~~

~~of an~~ acceptance ~~message~~, and ~~said method~~ further comprising ~~comprises the steps of~~:

determining whether said transitional extent deadline has passed; and

when ~~and, in the event of~~ said transitional extent deadline has passed,

determining a next transitional extent for said content stream being provided to said ~~the~~

user.

7.   Please change **Claim 6** to:

(Currently amended) The method of claim 5, further comprising:

~~wherein~~ in response to said transitional extent deadline not having passed,

stopping an output and sending a trigger message to said destination server module.

8.   Please change **Claim 7** to:

(Currently amended) The method of claim 6, further comprising: ~~the step of~~

waiting for a response message from said destination server module; and

in response to an error indicative response message, selecting an alternative

destination server module.

9.   Please change **Claim 8** to:

(Currently amended) The method of claim 3, wherein said message is said ~~in response to a~~ modified acceptance ~~message~~, and further comprising ~~said method performs the steps of~~:

selecting a new transitional extent ~~in~~ when ~~the case of~~ said modified acceptance is ~~being~~ appropriate; and

selecting an alternative destination server module when ~~if~~ said modified acceptance is inappropriate.

10.   Please cancel **Claim 14**.

11.   Please change **Claim 15** to:

(Currently amended) A method for user migration ~~receiving a migrated user of a content stream, said content stream is divided into a plurality of extents, each extent containing an amount of information retrieved from a single storage device of an array of storage devices during one service period~~, comprising:

receiving a transitional extent identifier, ~~an~~ transitional extent deadline and a content stream identifier associated with a migrated user of a content stream, said content stream being divided into a plurality of extents, each extent containing an amount of information retrieved from a single storage device of an array of storage devices during one service period;

determining if the whether an identified transitional extent, which is identified by said transitional extent identifier, of the an identified content stream, which is identified by said content stream identifier, may be accessed prior to said transitional extent deadline; and

in response to the event of a favorable determination, accessing said identified transitional extent and providing a message indicative of acceptance of said migrated user.

12.   Please change **Claim 16** to:

(Currently amended) The method of claim 15, further comprising: wherein,

in response to the event of an unfavorable determination, communicating an alternate transitional extent identifier to a source server module; and

accessing said identified content stream beginning with said identified alternate transitional extent.

13.   Please change **Claim 17** to:

(Currently amended) An apparatus, comprising:

a plurality of server modules including a first server module and a second server module, each of said server module[s] having associated with it a respective mass storage device for storing content as respective sequences of a plurality of extents including a transitional extent and a first extent, each extent containing an amount of

information retrieved from a single storage device of said mass storage device during one service period; and

a switch for coupling a plurality of content streams provided by said server modules to a plurality of transport processors, said content streams including at least one first content stream each of said transport processors;

wherein said at least one first content stream[s] being provided to a user by said [a] first server module is caused to be provided to said user by said [a] second server module, an initial portion of said first content stream provided by said second server module being defined by a transition, said first and second server modules cooperating to define said [a] transitional extent representing said [a] first extent of said first content stream to be provided by said second server module and a transitional extent deadline such that said transitional extent is retrieved from said mass storage device within said transitional extent deadline;

wherein, in response to the case of a migration event, at least one content stream is provided by a source server module and a said failing server module is are migrated to a non-failing server module such that a plurality of subscribers receiving at least one content stream[s] receive substantially uninterrupted service.

14.   Claims 1, 3-13 and 15-19 are allowed.

15.   The following is an examiner's statement of reasons for allowance:

In interpreting the claims, in light of the specification and the applicant's arguments filed on 01/11/2006, the Examiner finds the claimed invention to be patentably distinct from the prior art of record.

Lumelsky et al. (US 6,377,966), teaches a system and method for seamless streaming of data stored on a network of distributed primary and target servers using segmentation information exchanged among all servers during streaming, wherein the switching of a streaming session is enabled at arbitrary points in a manner that appears seamless to the client with respect to the continuity and temporal progress of its streaming session **(Lumelsky, Abstract and Summary of the Invention).**

Mann et al. (US 5,862,312), teaches a method and system for redundantly storing and accessing video data objects according to a (Redundant Array of Inexpensive Disks) RAID-5 process, wherein retrieving the DataBlocks of a single video object spread across the members of a cluster in a round robin fashion using the read process such as reading the first block from cluster member 0, for example, the second block from cluster member 1, and the third block from cluster member 2 and at this point the read process would recycle back to cluster member 0 *(i.e., retrieving extent of information from a single storage device of an array of storage devices during one service period)* **(Mann, C10: L32-50).**

However, the prior art of record fails to teach or suggest individually or in combination that a method and apparatus for performing user migration comprising: for a content stream being provided to a user from a source server module, determining a

transitional extent deadline associated with a transitional extent that defines an appropriate first extent to be provided to said user via a destination server module, said content stream being divided into a plurality of extents, including said transitional extent, said appropriate first extent, and a plurality of subsequent extents; *determining whether said destination server module is capable of retrieving said transitional extent from an array of storage devices within the transitional extent deadline*; and causing said destination server module to provide said transitional extent and said subsequent extents to said user, *each extent containing an amount of information retrieved from a single storage device of the array of storage devices during one service period* as set forth in independent claims 1, 15 and 17. Claims 1, 3-13, and 15-19 are allowed because of the combination of other limitations and the limitation listed above.

The examiner finds the Applicant's arguments on pages 7-10 of the Remarks filed on 01/11/2006 to be persuasive. The applicant argued in substance that the combination of prior art of records fail to disclose the features of the invention including *determining whether said destination server module is capable of retrieving said transitional extent from an array of storage devices within the transitional extent deadline; and each extent containing an amount of information retrieved from a single storage device of the array of storage devices during one service period*, as claimed in the invention for migrating users between information server modules in a manner minimizing disruption of content streams being provided to the users using a transitional extent which includes an amount of information that maximizes the retrieval efficiency of the disk array (see Remarks, page 10 and Specification, Summary of the Invention).

16.   Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Examiner's Amendment."

17.   Any inquiry concerning this communication or earlier communications from the examiner should be directed to Quang N. Nguyen, whose telephone number is (571) 272-3886.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's SPE, Rupal Dharia, can be reached at (571) 272-3880. The fax phone number for the organization is (571) 273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

RUPAL DHARIA
SUPERVISORY PRINT EXAMINER